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| APPLICATION NO | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO | CONFIRMATION NO |
|----------------|-------------|----------------------|--------------------|-----------------|
| 10 079,331 | 02 20 2002 | Dieter Girsch | 02-013 | 7963 |

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| EXAMINER |
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KERNIS, KEVIN P

| ART UNIT | PAPER NUMBER |
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1725

DATE MAILED: 05 21 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/079,331 | GIRLICH ET AL. |
| | Examiner | Art Unit |
| | Kevin P. Kerns | 1725 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 8-18 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 and 8-18 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 May 2002 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on August 20, 1999. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "10A" (in Figure 1). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: in paragraph [00025], 1st line, "(see Figure 8)" should be added after "22" for further clarity. In paragraph [00028], changes should be made as follows: in the 4th line, "container 16" should be changed to "container 18"; in the 7th line, "voids 19" should be changed to "voids 17"; and in the last line (only "16"), it is believed that "16" should be changed to "22". In paragraph [00030], line 15, it is believed that "mold 18" should be changed to "mold 16". Appropriate correction is required.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claims 1 and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walz (US 3,946,039) in view of JP 63-84758.

Walz discloses a method of using a reticulated foam structure to produce a reticulated casting, in which the method includes the following steps: placing a coated and/or swelled reticulated foam pre-structure (in which the foam material is selected from a group that includes polyurethane foam) into a heat-resistant container; forming an investment mold (which may be coated with another molten substance to form a solid jacket which would have a rough and textured surface) by infiltrating and solidifying a refractory material (including a gypsum material) around the reticulated foam pre-structure to form a mold within the container; removing the reticulated foam pre-structure by infiltrating the refractory material with a molten substance (metals, metal alloys, ceramics, polymers etc.); and subsequently withdrawing the solidified reticular structure (cast product) from the container and refractory mold (abstract; column 1, lines 48-68; column 2, lines 1-47 and 62-68; column 3, lines 1-10 and 40-58; column 5, lines 13-30; column 6, lines 12-16 and 51-59; column 7, lines 59-65; column 8, lines 13-65; column 11, lines 15-28; column 12, lines 53-68; column 13, lines 1-14; and column 14, lines 8-18). Walz does not disclose the steps of transferring the refractory mold with the reticulated foam pre-structure from a first container to a second container from which the final reticular structure would be removed.

However, JP 63-84758 discloses a method of producing a complex casting, in which the process includes a step of using a container to combine the foam material 1 with a material 2 into mold 3 (in which the mold serves as the first container), and

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placing the expendable (foam) model (2,4) into a second container (mold 8) before subsequently pouring molten metal 5 to form the final product (abstract; and Figures 1-3). This process is advantageous for producing various complex products with improved yield by filling up an expendable model into a mold after producing the expendable (foam) model and subsequently pouring molten metal into the (second) mold to substitute molten metal in place of the foam material (abstract).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of using a reticulated foam structure to produce a reticulated casting, as disclosed by Walz, by adding the process of using first and second containers, as taught by JP 63-84758, in order to produce various complex products with improved yield by filling up an expendable model into a mold after producing the expendable (foam) model and subsequently pouring molten metal into the (second) mold to substitute molten metal in place of the foam material (JP 63-84758; abstract).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Ugata et al. reference is also cited to show related art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

LTC
kpk
May 16, 2003

M. Ali
PRD, "A", 5/16/2003